

ELECTROCHEMICAL MACHINING TOOL
ASSEMBLY AND METHOD OF MONITORING
ELECTROCHEMICAL MACHINING

ABSTRACT OF THE DISCLOSURE

5 An electrochemical machining tool assembly includes first and
second tools that are spaced apart from one another so that a workpiece can
be located therebetween. The assembly also includes a first ultrasonic
transducer mounted in the first tool and a second ultrasonic transducer
10 mounted in the second tool. The electrochemical machining process is
monitored by generating ultrasonic waves with the first and second ultrasonic
transducers, and then detecting the arrival times, at the first and second
ultrasonic transducers, of certain reflections of the ultrasonic waves. The
detected arrival times are then used to calculate parameters such as the gap
sizes between the first and second tools and a workpiece situated
therebetween and the thickness of the workpiece.